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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,645	04/15/2004	Jinlian Hu	P69665US0	7691

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EXAMINER

BROOKS, KRISTIE LATRICE

ART UNIT	PAPER NUMBER
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1616

MAIL DATE	DELIVERY MODE
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01/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/824,645	Applicant(s) HU ET AL.	
	Examiner Kristie L. Brooks	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13 and 16-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/26/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election with traverse of the election of species in the reply filed on November 21, 2007 is acknowledged. The traversal is on the ground(s) that requiring a restriction under 35 U.S.C 121 among compound members of a Markush group is improper, and requiring the division of a generic claim violates the patent applicant's right "to have each claim examined".

This is not found persuasive because the Examiner has only requested a provisional election of species requirement as set forth in the restriction requirement and the Markush-type claim will be fully examined with respect to the elected species and further to the extent necessary to determine patentability. See MPEP 803.02.

The traversal is also on the grounds that the election of species with respect to the main monomer, cross-linking agent and binding agent is improper because the Markush groupings are so closely related that they do not warrant a separate search.

This is not found persuasive because they each have different molecular structures that will result in each compound having different chemical and physical properties.

Claims 12 and 14-15 are withdrawn from further consideration as being drawn to the non-elected invention.

The requirement is still deemed proper and is therefore made **FINAL**.

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2. Claims 1-19 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-2, 4-9, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (US 4,683,258).

Applicant claims a method of manufacturing a deodorant including the steps of forming polymer particles by reacting a main monomer of (N-substituted alkyl)acrylamide, a functional monomer for bonding the polymer particles to a fibrous substrate, a cross-linking agent, and an initiator; and loading a deodorant agent to the polymer particles.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Itoh et al. teach a method for manufacturing a composition that can optionally incorporate an odor preventative, the method comprising reacting a homopolymer or copolymer of at least one N-alkyl or N-alkylene substituted acrylamide or (meth)acrylamide such as N-isopropyl acrylamide with an hydrophilic monomers such as acrylamide, a crosslinkable monomer such as N,N'-methylenebisacrylamide and an initiator and incorporating the composition into a fibrous material (see the entire article, especially the abstract and column 3 lines 44-64 and column 4 lines 1-4, and column 7 lines 55-67, and column 13 lines 14-17). The hydrophilic monomer may generally be used in the amount of 60wt% or less (see the entire article, especially column 4 lines 55-58). The polymer of the invention is subject the polymer to a heat treatment ranging from 60-250°C (see the entire article, especially column 5 lines 18-46). Crosslinkable monomers may be utilized in the preparations in the amount of 0.01-10wt% (see the entire article, especially column 5 lines 48-51 and column 6 lines 1-3). The use of polymerization initiators include azo compounds, inorganic and organic peroxides, and potassium persulfate which usually give better results when used (see the entire article, especially column 7 lines 55-67). The initiators can be used in a range of 0.01-5wt% (see the entire article, especially column 8 lines 9-15).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Itoh et al. do not have an exemplification of manufacturing said deodorant using the instant components.

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to manufacture said deodorant using the instant components and loading a deodorant agent onto the polymer particles.

One of ordinary skill in the art would have been motivated to do this because Itoh et al. suggest polymerization of the instant polymers, cross-linking agents, with the use of an initiator, and additives such as odor preventatives for integration into fibrous material. Thus, it would have been obvious to one of ordinary skill in the art to use the instant components, because they are all useful in making an absorbing and releasing agent for integration into fibrous material. Although Itoh et al. do not teach loading the deodorant agent to the polymer particles, it would be obvious to one of ordinary skill in the art because the fibrous material will be able to absorb moisture as well as prevent odor from occurring in the fibrous material. Furthermore, although Itoh et al. do not teach how the polymeric particles are attached to the fibrous substrate, one of ordinary skill would readily assume that since the instant components and the components taught by the prior art are the same, in the absence of evidence to the contrary, the polymeric particles would be attached to the substrate by hydrogen bonding. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in

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the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

5. Claims 3,10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al.(US 4,683,258) in view of Izubayashi et al. (US 5,284,900).

Applicant claims a method of manufacturing a deodorant including the steps of forming polymer particles by reacting a main monomer of (N-substituted alkyl)acrylamide, a functional monomer for bonding the polymer particles to a fibrous substrate, a cross-linking agent, and an initiator; and loading a deodorant agent to the polymer particles.

Determination of the scope and content of the prior art

(MPEP 2141.01)

The disclosure of Itoh et al. is set forth above. Specifically Itoh et al. teach a polymerization method which may be employed includes copolymerizing a crosslinkable monomer such as N,N'-methylenebisacrylamide with acrylamide or methacrylamide derivatives such as N-isopropyl acrylamide and acrylamide, subject the polymer to a heat treatment ranging from 60-250°C, and integrating the polymer into the fibrous material (see

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Itoh et al. do not teach the use of a binding agent. Itoh et al. do not teach the use of the main monomer in an amount of 80-90%. These deficiencies are cured by the teachings of Izubayashi et al.

Izubayashi et al. teach a coating film comprising an aqueous crosslinkable resin dispersion with excellent adhesion, water resistance, solvent resistance and durability (see the entire article, especially the abstract). The crosslinkable resin dispersion is characterized by its being obtained by emulsion-polymerizing in an aqueous medium a monomer composition comprising 0-40% at least one polymerizable monomer with 60-99.9% of at least one or more polymerizable monomers such as (meth)acrylamide, N-monoethyl(methyl)acrylamide, etc (see the entire article, especially column 3 lines, 33-45 and column 5 lines 2-21). Heating is generally carried out at a temp of 60-130°C (see the entire article, especially column 11 lines 58-61). The coating compositions are useful as textile finishing compositions because of their excellent adhesiveness to a variety of substrates such as natural or synthetic, organic or inorganic fibers, or inorganic substrates (see the entire article, especially column 14 lines 26-49 and column 16 lines 40-68). When the coating compositions are applied as an over coat, they incorporate a crosslinking (binding) agent such as glutaraldehyde (see the entire article, especially column 15 lines 48-68).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

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It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use a binding agent and to use the main monomer in an amount of 80-90%.

One of ordinary skill in the art would have been motivated to do this because Izubayashi et al. suggest that when using the coating compositions as an over coat composition, crosslinking (binding) agents such as glutaraldehyde are added to the composition. Thus it would be obvious to one of ordinary skill in the art to add a binding agent because the agents help provide excellent adhesive properties to the coating composition when used on fibrous material. Furthermore, although Itoh et al. do not teach the use of the main monomer in an amount of 80-90%, it would have been obvious to one of ordinary skill in the art because it is already known to use main monomers of N-substituted alkyl)acrylamide in that amount when preparing coating compositions on fibrous material. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

6. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (US 4,683,258) in view of Sun et al. (US 6,322,665).

Applicant claims a method of manufacturing a deodorant including the steps of forming polymer particles by reacting a main monomer of (N-substituted

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alkyl)acrylamide, a functional monomer for bonding the polymer particles to a fibrous substrate, a cross-linking agent, and an initiator; and loading a deodorant agent to the polymer particles.

Determination of the scope and content of the prior art

(MPEP 2141.01)

The disclosure of Itoh et al. is set forth above. Specifically Itoh et al. teach an agent for absorbing and releasing water vapor, comprising a homopolymer or copolymer of at least one N-alkyl or N-alkylene substituted acrylamide or (meth)acrylamide (main monomer), ionic, hydrophilic and hydrophobic monomers (functional monomer), a cross-linking agents, with the use of an initiator, and additives such as odor preventatives for integrating into a fibrous material.

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Itoh et al. do not teach the specific use of cyclodextrin. This deficiency is cured by the teachings of Sun et al.

Sun et al. teach a high wet performance web comprising a polymeric anionic reactive compound (PACR) solution applied to a cellulosic fibrous web (same as tissue, tower, or textile) (see the entire article, especially the abstract, column 2 lines 40-46) and column 4 lines 28-29). The natural or synthetic fibers cellulosic fibers include

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nonwoody fibers, such as cotton lines and other cotton fiber, rayon etc (see the entire article, especially column 3 lines 45-67 and column 4 lines 1-27). The PACR solution can be applied by any method including coating (see the entire article, especially column 8 lines 65-67 and column 9 lines 1-2). Other chemical treatments can be incorporated into the web, such as odor-control substances such as cyclodextrins (see the entire article, especially column 7 lines 29-32).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate cyclodextrin.

One of ordinary skill in the art would have been motivated to do this because Itoh et al. suggest that odor preventatives can be added to the agent for absorbing and releasing water vapor. Thus it would be obvious to one of ordinary skill in the art to use cyclodextrin because it is known to be used as an odor controlling substance in polymeric compositions to be applied to a fibrous material. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

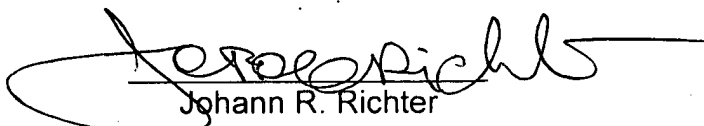
7. No claims are allowed.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie L. Brooks whose telephone number is (571) 272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB


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